

IN THE CLAIMS:

1. (Currently Amended) An ultrasonic diagnostic system for preparing a diagnostic data including image by transmitting ultrasonic pulses to a living tissue, and receiving and analyzing reflected waves of the ultrasonic pulses, the ultrasonic diagnostic system comprising:

a beam scanning means for transmitting an ultrasonic beam having a plurality of ultrasonic pulses to a living tissue while successively changing over the radiating position of said ultrasonic beam[[s]], said plurality of ultrasonic pulses being transmitted at a repeated transmission frequency of a few kHz, said living tissue being a heart wall;

a reflected wave receiving means for receiving a plurality of wave signals reflected at the heart wall;

an analytical processing means for calculating a displacement waveform of a region of interest (ROI) by applying a phased tracking method to the received plurality of wave signals, for changing a position and size of the region of interest (ROI) based on the calculated displacement waveform, for calculating the plurality of backscattering intensity signals during one pulsation of the heart and for measuring [[a]] the plurality of backscattering intensity signals during one pulsation of a heart by using a scattering wave from [[a]] the region of interest (ROI) in the heart wall ~~on a basis of~~ based on the received plurality of wave signals; and

a detecting means for detecting a variation frequency of the measured plurality of backscattering intensity signals during one pulsation of the heart to obtain the diagnostic data, said variation frequency being a frequency of tens to hundreds of Hz and being superimposed

over heart cyclic variations (CV).

2-6. (Canceled)

7. (Currently Amended) The ultrasonic diagnostic system according to claim 1,  
~~wherein the analytical processing means further comprises:~~ further comprising:

means for displaying in an assessable manner an instantaneous thickness  
variation velocity of the region of interest on a basis of the variation frequency or the  
variation cycle of the detected backscattering intensity.

8. (Previously Presented) The ultrasonic diagnostic system according to claim 7,  
wherein the means for displaying has a function to convert the variation frequency or the  
variation cycle of the backscattering intensity of the region of interest into a suitable color or  
a density level according to a predetermined color bar or gray scale, and a function to display  
it in the converted form on a screen.

9. (Previously Presented) The ultrasonic diagnostic system according to claim 8,  
wherein the function to display is to display superimposed over an M-mode image the value  
of the variation frequency or the variation cycle of the backscattering intensity converted into  
a color or a density level.

10. (Currently Amended) An ultrasonic diagnostic method for preparing a diagnostic data including image by transmitting ultrasonic pulses to a living tissue, and receiving and analyzing reflected wave of the ultrasonic pulses, the ultrasonic diagnostic method comprising:

transmitting an ultrasonic beam having a plurality of ultrasonic pulses to a living tissue while successively changing over radiating position of said ultrasonic beam, said plurality of ultrasonic pulses being transmitted at a repeated transmission frequency of a few kHz, said living tissue being a heart wall;

receiving a plurality of wave signals which are reflected at the heart wall;

measuring a plurality of backscattering intensity signals in one pulsation of a heart by using a scattering wave from a region of interest (ROI) in the heart wall ~~on a basis of~~ based on the received plurality of wave signals; and

detecting a variation frequency of the measured plurality of backscattering intensity signals in one pulsation of the heart to obtain the diagnostic data, said variation frequency being a frequency of tens to hundreds of Hz and being superimposed over cyclic variations (CV);

wherein the measuring step further comprises:

calculating a displacement waveform of the region of interest (ROI) by applying a phased tracking method to the received plurality of wave signals;

changing a position and size of the region of interest (ROI) based on the calculated displacement waveform; and

calculating the plurality of backscattering intensity signals in one pulsation of the heart.

11-15. (Canceled)

16. (Previously Presented) The ultrasonic diagnostic method according to claim 10, wherein an instantaneous thickness variation velocity of the region of interest is displayed in an assessable manner on a basis of the variation frequency or the variation cycle of the detected backscattering intensity.

17. (Original) The ultrasonic diagnostic method according to claim 16, wherein the variation frequency or the variation cycle of the backscattering intensity of the region of interest is converted into a suitable color or a density level according to a predetermined color bar or gray scale and is displayed in the converted form on a screen, in order to display in an assessable manner the instantaneous thickness variation velocity of the region of interest.

18. (Original) The ultrasonic diagnostic method according to claim 17, wherein the value of the variation frequency or the variation cycle of the backscattering intensity converted into a color or a density level is displayed by superimposing over an M-mode image.

19. (Currently Amended) An ultrasonic diagnostic method for preparing a diagnostic data, the ultrasonic diagnostic method comprising:

providing an ultrasonic diagnostic system;

providing a means for displaying an image;

transmitting an ultrasonic beam to a living tissue via said ultrasonic diagnostic system, said living tissue being a heart wall, said ultrasonic beam having a plurality of ultrasonic pulses, said plurality of ultrasonic pulses reflecting off said heart wall, said plurality of ultrasonic pulses being transmitted at a repeated transmission frequency of at least one kHz, said ultrasonic diagnostic system receiving said reflected plurality of ultrasonic pulses;

changing successively the radiating position of said ultrasonic beam via said ultrasonic diagnostic system;

calculating a displacement waveform of a region of interest (ROI) by applying a phased tracking method to the received plurality of wave signals, changing a position and size of the region of interest (ROI) based on the calculated displacement waveform and calculating the plurality of backscattering intensity signals in one pulsation of the heart for measuring a plurality of backscattering intensity signals in one pulsation of the heart by using a scattering wave from [[a]] the region of interest (ROI) in the heart wall based on intensity of said received plurality of ultrasonic pulses; and

detecting a variation frequency of the measured plurality of backscattering intensity signals in one pulsation of the heart to obtain the diagnostic data, said variation frequency being a frequency of tens to hundreds of Hz and being superimposed over the cyclic variations (CV).